

20.04.20

I can find factor pairs and multiply 2 and 3 digit numbers.

Key Vocabulary

multiply

groups of

lots of

times

divide

share

remainder

factor

multiple

product

Multiplication and Division Facts

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Task 1

Play Hit the Button to practice your times tables up to 12 x 12.

<https://www.topmarks.co.uk/maths-games/hit-the-button>

If you feel confident with your times tables have a go at your division. You may wish to record your score and see if you can beat it.

Factors and Commutativity

A factor is a whole number that multiplies by another number to make a product e.g. $3 \times 5 = 15$, factor \times factor = product.

Commutativity means that I can solve a question in any order. Multiplication is commutative.

e.g. $3 \times 5 = 15$ is the same as $5 \times 3 = 15$.

Factor pairs and Commutativity

20

1 2 4 5 10 20

$5 \times 4 = 20$

$4 \times 5 = 20$

The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:

1 and 20 2 and 10 4 and 5

Task 2:

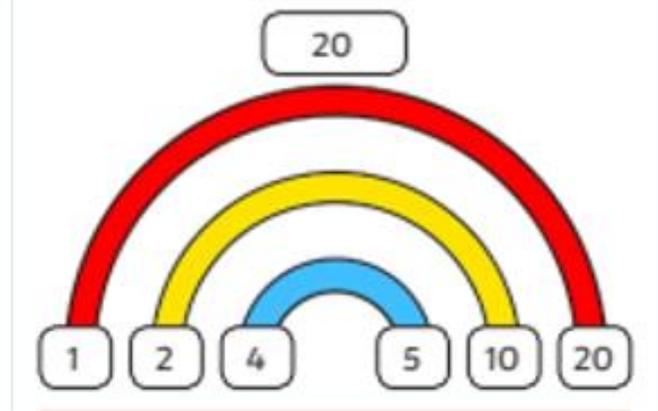
Using factor rainbows show the different factor pairs for the following numbers:

12

16

48

56



20 is the product

The factor pairs are

- 1×20
- 2×10
- 4×5

Task 3 – Factors Problem Solving

Some numbers are equal to the sum of all their factors (not including the number itself).

e.g. 6

6 has 4 factors, 1, 2, 3 and 6

Add up all the factors not including 6 itself.

$$1 + 2 + 3 = 6$$

6 is equal to the sum of its factors (not including the number itself)

How many other numbers can you find that are equal to the sum of their factors?

Which numbers are less than the sum of their factors?

Which numbers are greater than the sum of their factors?

Multiplying 2 and 3 digit numbers

Multiply Using Formal Written Methods				
Th	H	T	O	
	5	4	3	
x			4	
		1	2	(4 × 3)
	1	6	0	(4 × 40)
2	0	0	0	(4 × 500)
2	1	7	2	

Th	H	T	O
	5	4	3
x			4
2	1	7	2
	1	1	

Remember to move any regrouped numbers into the next column. After the next multiplication, add the regrouped number to the answer.

Watch this video to remind you about how we can solve multiplication using formal method.

<https://www.youtube.com/watch?v=l2jwLKaQ0m8>

Top Tips when using formal method:

1. Write each number under the correct place value
2. Always start with the ones.
3. Write the numbers directly underneath.
4. If I have to carry my number it is written below the line in the next column and added to the next multiplication.

Th	H	T	O
	5	4	3
x			4
2	1	7	2
	1	1	

Task 4: Solve these questions using the formal written method.

$$43 \times 3 =$$

$$74 \times 9 =$$

$$82 \times 6 =$$

$$243 \times 4 =$$

$$572 \times 6 =$$

Challenge:

Here are three incorrect multiplications.

	T	O
	6	1
x		5
<hr/>		
	3	5

	T	O
	7	4
x		7
<hr/>		
4	9	8

	T	O
	2	6
x		4
<hr/>		
8	2	4

Correct the multiplications.

Spot the mistake

Alex and Dexter have both completed the same multiplication.



Alex

	H	T	O
	2	3	4
x			6
<hr/>			
1	2	0	4
	2	2	



Dexter

	H	T	O
	2	3	4
x			6
<hr/>			
1	4	0	4
	2	2	

Who has the correct answer?

What mistake has been made by one of the children?